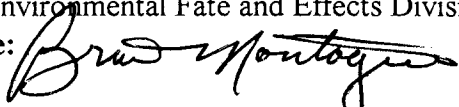


US EPA ARCHIVE DOCUMENT

DATA EVALUATION RECORD
§ 72-1 - ACUTE LC₅₀ TEST WITH A WARMWATER FISH

1. **CHEMICAL:** Metolachlor PC Code No.: 108801
2. **TEST MATERIAL:** CGA-51202 Purity: Not reported
3. **CITATION:** Author: A. Vial
Title: Report on the Acute Toxicity Test of CGA-51202 to Common Carp (*Cyprinus carpio*)
Study Completion Date: August 12, 1991
Laboratory: Ciba-Geigy Limited, Crop Protection Division, Basle, Switzerland
Sponsor: Novartis Crop Protection, Inc., Greensboro, NC
Laboratory Report ID: 918151
MRID No.: 449295-02
DP Barcode: D260006
4. **REVIEWED BY:** Karl Bullock, M.S., Environmental Scientist,
Golder Associates Inc.
Signature: **Date:** 11/99
- APPROVED BY:** Pim Kosalwat, Ph.D., Senior Scientist,
Golder Associates, Inc.
Signature: **Date:**
5. **APPROVED BY:** Brian Montague, Fisheries Biologist
Environmental Fate and Effects Division, OPP
Signature:  **Date:** March 2000
6. **STUDY PARAMETERS:** **Age or Size of Test Organism:** 32-43 mm
Definitive Test Duration: 96 hours
Study Method: Static
Type of Concentrations: Mean measured
7. **CONCLUSIONS:** This study is scientifically sound but does not fulfill Agency guideline requirements. The 96-hour LC₅₀ for carp exposed to CGA-51202 was determined to be >100 ppm nominal (>93.1 ppm mean measured), which classifies this compound as practically non-toxic to the carp.
Results Synopsis
LC₅₀: >100 ppm nominal (>93.1 mean measured) 95% C.I.: N/A
NOEC: 100 ppm nominal
8. **ADEQUACY OF THE STUDY:** **A.** **Classification:** Invalid



B. Rationale: The percent purity of the test substance was not reported. Study was conducted with de-chlorinated tapwater. See deviations below.

C. Repairability: No.

9. GUIDELINE DEVIATIONS:

1. The percent purity of the test material was not reported.
2. The test was conducted with a species other than the recommended species.
3. Dilution water was dechlorinated tap water.
4. Pretest mortality was not reported.
5. Test solutions were aerated.

10. SUBMISSION PURPOSE: To support reregistration of metolachlor.

11. MATERIALS AND METHODS:

A. Test Organisms

Guideline Criteria	Reported Information
<u>Species</u> Preferred species is the bluegill sunfish (<i>Lepomis macrochirus</i>)	Carp, <i>Cyprinus carpio</i>
<u>Mean Weight</u> 0.5-5 g	Mean: 0.74 g Range: 0.41-0.96 g
<u>Mean Standard Length</u> Longest not > 2x shortest	Mean: 39 mm Range: 32-43 mm
<u>Supplier</u>	P. Hohler / CH-4314 Zeiningen
All fish from same source?	Yes
All fish from the same year class?	Not reported

B. Source/Acclimation

Guideline Criteria	Reported Information
<u>Acclimation Period</u> Minimum 14 days	24 days

Guideline Criteria	Reported Information
Wild caught organisms were quarantined for 7 days?	N/A
Were there signs of disease or injury?	Not reported
Feeding No feeding during the study	Last fed 24 hours prior to testing
Pretest Mortality < 3% mortality 48 hours prior to testing	Pretest mortality not reported

C. Test System

Guideline Criteria	Reported Information
Source of dilution water Soft reconstituted water or water from a natural source, not dechlorinated tap water	Carbon filtered dechlorinated tap water
Does water support test animals without observable signs of stress?	Yes
Water Temperature 17°C or 22°C	23 °C
pH Prefer 7.2 to 7.6	7.6 - 8.4
Dissolved Oxygen Static: ≥ 60% during 1 st 48 hrs and ≥ 40% during 2 nd 48 hrs, flow-through: ≥ 60%	≥87% of saturation during the test
Total Hardness Prefer 40 to 200 mg/L as CaCO ₃	164 mg/L as CaCO ₃
Test Aquaria 1. Material: Glass or stainless steel 2. Size: Volume of 18.9 L (5 gal) or 30 x 60 x 30 cm 3. Fill volume: 15-30 L of solution	Glass 20-L 15 L
Type of Dilution System Must provide reproducible supply of toxicant	N/A
Flow Rate	N/A

Guideline Criteria	Reported Information
<u>Biomass Loading Rate</u> Static: ≤ 0.8 g/L at $\leq 17^{\circ}\text{C}$, ≤ 0.5 g/L at $> 17^{\circ}\text{C}$; flow-through: ≤ 1 g/L/day	0.50 g/L
<u>Photoperiod</u> 16 hours light, 8 hours dark	16 h light, 8 h dark
<u>Solvents</u> Not to exceed 0.5 mL/L for static tests or 0.1 mL/L for flow-through tests	Solvent: none Maximum conc.: N/A

D. Test Design

Guideline Criteria	Reported Information
<u>Range Finding Test</u> If $\text{LC}_{50} > 100$ mg/L with 30 fish, then no definitive test is required.	Pretests were conducted, however, the results were not reported.
<u>Nominal Concentrations of Definitive Test</u> Control & 5 treatment levels; dosage should be 60% of the next highest concentration; concentrations should be in a geometric series	Control, 10, 18, 32, 58, and 100 mg/L
<u>Number of Test Organisms</u> Minimum 10/level, may be divided among containers	10 fish per treatment level or control
Test organisms randomly or impartially assigned to test vessels?	Yes
Biological observations made every 24 hours?	Yes

Guideline Criteria	Reported Information
<u>Water Parameter Measurements</u> 1. <u>Temperature</u> Measured constantly or, if water baths are used, every 6 hrs, may not vary > 1°C 2. <u>DO and pH</u> Measured at beginning of test and ever 48 h in the high, medium, and low doses and in the control	Temperature, DO, and pH measured daily in each control and treatment replicate
<u>Chemical Analysis</u> Needed if solutions were aerated, if chemical was volatile, insoluble, or known to absorb, if precipitate formed, if containers were not steel or glass, or if flow-through system was used	Yes, solutions collected at 0 and 96 hours were analyzed by HPLC

12. REPORTED RESULTS:

A. General Results

Guideline Criteria	Reported Information
Quality assurance and GLP compliance statements were included in the report?	Yes, but compliance was with OECD and Swiss GLP. A QA statement was also included in the report.
<u>Recovery of Chemical</u> 1. Percent of nominal 2. Limit of detection 3. Method validation	1. 85 - 93% 2. 1 mg/L 3. Not reported
<u>Control Mortality</u> Not more than 10% control organisms may die or show abnormal behavior.	0% control mortality

Guideline Criteria	Reported Information
Raw data included?	Yes
Signs of toxicity (if any) were described?	No signs of test material toxicity were reported

Analytical Results

Toxicant Concentration (mg/L)				
Nominal	Hour of Study		Mean Measured (SD)	Percent of Nominal
	0	96		
Control	<1	<1	-	-
10	8.50	8.80	8.70 (0.21)	87
18	16.70	16.60	16.70 (0.07)	93
32	27.20	27.20	27.20 (0.0)	85
58	54.50	52.30	53.40 (1.56)	92
100	92.50	93.70	93.10 (0.85)	93

Mortality

Concentration (ppm)		Number of Fish	Cumulative Number Dead			
Nominal	Mean Measured		Hour of Study			
			24	48	72	96
Control	-	10	0	0	0	0
10	8.7	10	0	0	0	0

Concentration (ppm)		Number of Fish	Cumulative Number Dead			
Nominal	Mean Measured		Hour of Study			
			24	48	72	96
18	16.7	10	0	0	0	0
32	27.2	10	0	0	0	0
58	53.4	10	0	0	0	0
100	93.1	10	0	0	0	0

Other Significant Results: No signs of test material toxicity were reported.

B. Statistical Results

Statistical method: Visual observation using nominal concentrations

96-hr LC_{50} : >100 ppm 95% C.I.: N/A

Probit Slope: N/A NOEC: 100 ppm

13. VERIFICATION OF STATISTICAL RESULTS:

Parameter	Result
Binomial Test LC_{50} (C.I.)	N/A
Moving Average Angle LC_{50} (95% C.I.)	N/A
Probit LC_{50} (95% C.I.)	N/A
Probit Slope	N/A
NOEC	100 ppm (93.1 ppm mean measured concentration)

14. REVIEWER'S COMMENTS: This study is scientifically sound but does not fulfill the

guideline requirements for an acute toxicity test using a freshwater fish. The percent purity of the test material was not reported. Aeration of test dilution water was employed during study. De-chlorinated tap water was employed as dilution water. The 96-hour LC_{50} for carp was determined to be >100 ppm (>93.1 ppm mean measured concentration), which classifies CGA-51202 as practically non-toxic to the carp. The NOEC was determined to be 100 ppm (93.1 ppm mean measured concentration).

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PAGES CONSIST OF REGISTRANT-SUBMITTED DATA.**